

## 環境配慮行動を促す説得的コミュニケーション

著者	Robert B. Cialdini
雑誌名	「エコ・フィロソフィ」研究 別冊
号	2
ページ	115-135
発行年	2008-03
URL	<a href="http://doi.org/10.34428/00005232">http://doi.org/10.34428/00005232</a>

## 招待講演会

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**Using persuasive communications to protect the  
environment**

Robert B. Cialdini (Arizona State University)



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## Using persuasive communications to protect the environment

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2007年9月19日(水) 13:30~15:30

東洋大学井上円了ホール

Robert B. Cialdini 教授は、米国を代表する社会心理学者の一人であり、社会的影響過程、援助行動、社会的規範などに関する数多くの業績で学界をリードしている。ウィスコンシン大学を卒業後、ノース・キャロライナ大学(1970年に博士号を取得)、コロンビア大学を経て、現在はアリゾナ州立大学で教鞭を執っている。同教授はこれまで数々の論文や著作を発表しているが、とくに人の態度や行動を変化させる心理的な力について平易な語り口で解説した“*Influence: Science and Practice*”(邦題『影響力の武器』)は、科学的知識に基づいて書かれた良書として専門家の間でも高い評価を受けており、日米でロングセラーとなっている。

今回の講演で扱われたテーマは、社会的規範が環境保護行動に及ぼす影響である。Cialdini 教授の研究姿勢として特徴的なのは、現実場面で観察される社会的影響の様相に鋭い眼を向け、そこからまた研究のアイデアを得るという一連の「サイクル」を大切にしていることであるが、その姿勢は、環境保護行動に関する研究でも貫かれている。講演は、そうした研究をいくつか紹介しながら、以下の点が主張された。(1)エネルギー使用者は、社会的規範が自分自身のエネルギー使用に果たしている役割を過小評価している。(2)社会的規範に基づいた理由を含む説得的コミュニケーションは、これまで用いられてきたコミュニケーションよりも効果がある。(3)こうした社会的規範に基づくコミュニケーションは低コストであるにもかかわらず、あまり使われていない。なお、末尾に講演で使用された資料の一部を掲載したので参考にさせていただきたい。(文責：安藤清志)



Well, I am pleased and honored to have been invited to give presentation at



this conference in your beautiful country and at this impressive university that is the case for two reasons. First, the invitations came from Japanese Psychological Association. It is a professional organization which I respect very much. Second, the invitation allows me describe research that is designed to have both theoretical and applied value, which I think is something appreciate very much about psychological research that is done here in Japan.

Research that provides both theoretical and applied contributions is crucial to a well functioning society, not just it offers evidence regarding the wisdom of existing policies and programs. In other words, such research can tell not only what it is currently being done right, but also of what is currently being done wrong—sometimes very wrong—by policymakers and program developers in public and private. In this regard, let me add my belief that theoretically-informed research can be especially effective in steering decision makers, policy makers, toward productive procedures and away from destructive ones that they don't even realize are being destructive.

In the remaining time, I'll show you several instances in which practices that were intended to protect the environment in United States turned out to have the opposite effect. I'll also try to point out how these same psychological analyses that we can apply to these situations can be used as a corrective to these problems by identifying alternative practices that did achieve the goal of environmental protection.

Before I do that, it is important for me to recognize the number of collaborators I have had in the research I describe. Because the work has been ongoing for more than a decade, their number is large; but, each has been an important collaborator in the process. They are: Daniel Barrett, Renee Bator, Linda Demaine, Noah Goldstein, Vidas Griskevicius, Carl Kallgren, Raymond Reno, Kelton Rhoads, Brad Sagarin, and Patricia Winter.

Now, I'd like to begin my presentation by showing you a video clip of something that is remarkable in the United States. It has to do with the public service announcement that is widely considered to be the most successful public service announcement that has ever been produced in the United States, and it has to do with protecting the environment. It was produced by an organization called "Keep America Beautiful", and they are convinced that it is the most persuasive message that has ever been sent to the American public about the value of protecting the environment. Indeed it was rated as the sixteenth best television commercial of all times in the United States. Not just the sixteen best public service announcement, sixteenth best commercial at television ad of all time. That's unheard of public service announcement they typically have very small production budgets, very

infrequent air time in which they are played on the television. So, for a public service announcement to have that kind of reputation is truly remarkable. Let me describe it briefly to you, and then I'll show it. It depicts a Native American Indian paddling his canoe up a stream that floats with various forms environmental pollutions. He comes to the shore of a bank of this river which also covered with litter of one sort of another. He brings his canoe to the side walks to the side of a highway that is also covered with various paper and cans and litter. As he watches this scene, an automobile drives passed him and someone hurls a bag of fast food trash out of the window of the car. It splatters on the ground and stops at his feet. The camera comes up his body and we see a single tear coming down his face. It's really a powerful message against the spoiling the environment. Let's see if we can watch it.....

[narration of PSA] "Some people have the deep abiding respect for this country, and some people don't. People start pollution, people can stop it. People start pollution, people can stop it."

That's the message. Despite the fame and recognition value of this powerful piece of public service advertising, our research suggests that it may be less than optimal, and perhaps even negative in their impact on the audience. We have some evidence to make us think that this famous ad may actually have done the reverse, an increase the likelihood that the people would litter. Why? Because, in addition to the powerful tear down the Indian's face, the viewer is shown many people who are littering. They are given the message that the people typically litter, that is the norm in this country. Does that message interfere with the message that the littering is disapproved by this Indian Chief? We know enough about the social influence process that people follow the actions of those who are seemed to be similar to them. Well, in this ad the similar others are the litterers to the audience. The different individual is an Indian Chief. We have very few Indian Chiefs in the United States were left.

So perhaps, it is the case that the creators of this ad have missed something critically important: Within the statement "Look at all the people who are doing this undesirable thing" lurks the powerful and undercutting normative message "Look at all the people who are doing this undesirable thing." And we know people follow the crowd.

We know that. Now, environmental communicators are not only ones, who make this mistake, we see information all the time. Telling us that alcohol and drug use is widespread, that adolescence suicide it occurs in regrettable levels, and that tax cheaters are widespread in our society. That maybe is a

mistake in all those instances. For example, in the United States, the tax agency, the Internal Revenue Service issued a public statement and it said, because so many are cheating on their taxes, we are going to raise the penalties against tax fraud. When they did that, next year tax cheating went up. Even though the penalties against them, tax cheating became more severe. Message to the American people was “all your neighbors are doing this” and that caused tax cheating to go up.

Well, all of this is good story. But, what’s the evidence for what I am saying? What evidence can I present to support this idea? With my colleagues, we decided to investigate the topic of the ad that you just saw, that is the topic of littering and what causes people to be willing to litter into public places and spoil the state of the environment. We went to a parking garage that was associated with the university hospital. We went a particular floor in this parking garage, and we decided to test the effects of messages for and against littering in that area. This is where visitors would park their cars and they would see their friend and relative and would come back.

We thought that on the basis of theory we have developed, we could structure their experience in a way that we could greatly increase or decrease the likelihood that they would litter. The theory is called, “Focus Theory of Normative Conduct”. It says that there are two kinds of norms we have to consider in influencing others. The first is what we can call the Descriptive Norm. It describes what people commonly do. It simply tells us what everyone else is doing. And it is designed to motivate people to follow the norm by giving the information as to what is likely to be effective and adaptive conduct for them in that situation. If you do this, you are likely to be right. For example, if you find that all of your friends are going to a particular film or buying a piece of software, that’s a good indication that will probably be a good film for you to see or a good piece of software for you to purchase. Just what other people do spur us to same just because they give us good information to what is likely to be an effective action there.

There is another kind of norm however, the Injunctive Norm. This one describes not most people do, but most people approve or disapprove in that situation. And it motivates action giving people evidence as to what behavior is likely to have when approve or disapprove by those around them. Well, in addition to these two kinds of norms, the “Focus Theory of Normative Conduct” suggests that, both types of norms will be effective only when they are focal in attention. That is when people are focused on them in consciousness, when they are paying attention to that particular type of norm. For example, focusing individuals done in a situation will likely cause them to coordinate

their behavior with this “Focal Descriptive Norm”, what everybody else is doing rather than everybody else is approving in that situation. If that’s the case, procedures that focus the individuals on the offence against the environment will have the potential to actually increase the occurrence of that event. Telling a lot of individuals that people litter here so we have to stop this may actually cause those people to litter more.

Here is how we tested the idea. I think you remember we went to hospital parking garage. People left their cars and went inside to visit their friend or family member and when they came out, we had arranged their environment in one of two ways. For half of the subject, when they came off the elevator, they saw an environment that was completely clean: There was not a cigarette butt or a tooth pick. For the other half of the subjects, when they came off the elevator, they saw a floor that was completely littered: It had candy wrappers, soft drink cans and cigarette butts and all kinds of litter. When they got to their car, we had placed a flyer on their windshield. The flyer said, “Please drive carefully /National Driver Safety Month”. There was no important information. What are they going to with this? Were they going to throw it on the floor or will they keep it with them and put it in their cars? So that was in which they could have information. “The descriptive norm” in the clean environment was that the people do not typically litter. The results show that people actually do not litter in this setting. In the littered environment condition, it was opposite result. The evidence here is that most people do litter.

Second thing we did was to differentially focus some of these subjects on the state of the environment and existing one. For half of the subject, when they came of the elevator, they passed one of our research assistants holding one of the flyers. He was reading it and five meters before encountering the subjects, he threw it on the ground and we saw what happened. Every person watched that flyer go down to the ground and they noticed the state of the environment. Suddenly, the state of the environment is more focal to them. For the other half of the subjects, the confederate simply walked by them. That was done to control the social contact that they have experienced before they went to their pod. Recall, when they went to their car, they saw the flyer.

We had three predictions, based on the focus theory. First prediction was that those participants would be more likely to litter in already littered environment, which everyone in this room would make without having reading our theory. The second prediction was that those participants who saw the confederate drop litter into an already littered environment than those who did not see the confederate in that environment, because their attention has been

brought to the norm in that situation. But, notice that the same pattern of data would be predicted by a simple modeling, an amount of behavior that says that the people follow the behavior of others. However, our third prediction allowed us to distinguish between these two theories: The modeling theory and norm theory. We predicted that those participants who saw the confederates drop the flyer into clean environment would now litter less than those who did not see the confederate litter. That's the opposite of what modeling theory would say: It would say that if you see someone litter, your litter more. We're saying that is not the case. If the litterer goes into a clean environment and causes people to notice the descriptive norm there is not correct.

So let me show you the results, that is, how many littered in the four conditions of they experiment. First of all, as you can see, the environment was already littered. There was a pro-littering descriptive norm, saying that littering is common. When the participants saw a model litter into that environment, almost 55% of them threw down their handbill on the ground. If the model had not littered, only about 15% of them littered. But that prediction would be made by both the modeling theory and the norm theory.

The key was what happened in the clean environment where we see those individuals who saw our confederate litter into a clean actually littered less than those did not see that occurred. That can only be explained in terms of our focus theory of normative conduct.

Let me move on then to some implications of our analysis to this point. If they are those implications in situations that are characterized by a lot of socially undesirable conduct, it is a serious mistake to focus an audience on descriptive norm there. Public service messages under those conditions should focus the audience on the injunctive norm: That is most people approve and disapprove there. That's the proper way to reduce the undesirable behavior.

To test that idea more fully, we decided to do one more study where we look at an example a public service message that was design to reduce a problem that might have had the problem of increasing the problem. And, that has to do with a place that was familiar to me because it exists in my home state of Arizona. It's the United States National Petrified Natural Forest, where they have problem every year: People would visit the forest and steal pieces petrified wood or crystals from the forests' floor at a very large rate. More than one ton of wood is stolen from the forest every year. When people come to the gates of the forest, they are informed of this problem with a large sign that as follows: "Your heritage is being vandalized every day by theft losses of petrified wood of 14 tons a year, mostly a small piece at a time." We thought it was a wrong message telling visitors that all other visitors are stealing.

By the way, we got to this sign existed because one of my graduate students at the time traveling across the country to work with me with his fiancé. This was a woman he described as the single most honest individual he had ever met in his life, someone who'd never borrowed a paper clip without returning it to the owner. They quickly encountered the park sign warning visitors against stealing petrified wood. While still reading the sign, he was shocked to hear his otherwise wholly law-abiding fiancée whisper, "We'd better get ours now."

What could cause this entirely honest individual not only to break the law, but to despoil a national treasure in the process? We think it had to do with power of descriptive norms. In this case, that was misdirected and caused visitors to see theft as the normative thing to do.

So, this is how we tested this idea. We went to three separate paths in the forest where there were petrified wood lying in and around the passes. And we took our own petrified wood and we placed then in certain location along this path. We knew where that wood was located. And for some participants in our study, we erected a sign got this pass. That essentially told them that majority of visitors steal the wood so this problem has to stop. Here is what it looked like: "Many past visitors have removed petrified wood from the forest changing the natural state of the forest." And it depicted three individuals stealing wood. For another group of visitors, when they got this path, they passed a different sign. This one had a single thief, not a lot of thieves, just one: Please don't remove the petrified wood from the park, in order to preserve the natural state of the Petrified Forest. So we have majority of people stealing versus just one person stealing. Then we had a controlled group where visitors who passed through the forest passed no sign at all. We just wanted to see what percentage of people would steal the wood we had placed there with no information.

I'll show you what we found out. When there was no sign, about 3 % of the visitors stole from the passes. When there was the norm that majority of us steal, we almost tripled the theft. Now remember, this is the kind of sign that the forest service was using to try to suppress the theft, and it had the opposite effect. However, if we showed them the sign which said that "please don't do this" and only one person was shown stealing, then we got only the half of the controlled norm. So it was possible to move the anti-environmental actions of these visitors greatly more or significantly less individual.

Now, does this mean that we should always use the injunctive norm rather than the descriptive norm in the messages we sent to people for protecting the environment? No, it does not. We should only refuse to use the descriptive norm in situations where the majority of people are acting against the

environment. But, in many of the situations people do what is favorable to the environment.

Let me give you some examples. In those circumstances, we want to tell the people what the majority is doing. It comes from the situation that I am familiar with, probably most of you are familiar with, if travel at all frequently: That is the hotel room, somewhere in the room these days, at least in the 65% of the hotels room where I stay. There is a small card, asking the guests to reuse their towels and linen for the sake of the environment. Here is the selection of these cards that I've captured for the research purposes from around the world. This one is from London, this one from Helsinki, here's one from San Francisco, and here is one from Amsterdam. Here is one from the cruise ship, another one from Disney World. We're all being told to please recycle your towels and linens for the sake of the environment. Now, message almost always refers to value of environmental recourses and preserving the natural state of the environment, because we reuse our towels and linens, it isn't necessary to wash them, it isn't necessary to use water to clean them, won't be necessary to use the detergent that then flows into our natural environment.

So for all those reasons we asked to do so for the sake of the environment. And, typical requests ask us to hang up towel on the rack, looks like this. Let say, before we go, the sign says to do so for the environmental protection. Sometimes, it says to do so to cooperate with the hotel toward this goal of keeping the environment clean. In fact, here is the card from Tokyo Dome Hotel where I stay. It says, "If you wish to use the same towel, hang them on the towel bar. Thank you for cooperating with the Tokyo Dome Hotel in this common cause."

Some hotels have actually gone far as to give us an incentive for cooperating with them, because they will save a lot of money if we do reuse our towels. They will say, if you do recycle your towels, we will give a donation of a percentage of the profits to an environmental cause at the end of the year. So they give us a reason to cooperate with them.

Let me show you a typical scene looks like, as you can see, hang the towel here on the rack and here is a card next to the request. The card we use in the study looks like this: "Please reuse the towel". There is a message in the front of the card. On the back, there was information on how many gallons of water that could be saved, and how much energy could be saved, barrels of oil. That was consistent in all of our cards.

Notable in its absence from these persuasive appeals was one based on social norms. Compared to the existing types of communications, we wondered what



would be the effect of simply informing guests that the majority of their counterparts do reuse their towels when requested. To examine that question, we enlisted the aid of the management of hotels in the Phoenix, Arizona area of the United States, where we randomly placed cards with conceptually different recycling appeals in its 190 rooms and where the room attendants were trained to record the relevant reuse data. All of the cards were identical in two respects. First, on the front, they informed guests that they could participate in the program by placing their used towels on the bathroom towel rack or curtain rod. Second, on the back, they provided information regarding the amount of energy that could be saved if most guests participated in the program.

The cards differed, however, in the persuasive appeals designed to stimulate recycling. One focused guests on environmental protection. It stated: "Help save the environment. You can show your respect for nature and help save the environment by reusing your towels during your stay." A second type of card focused guests on environmental cooperation. It stated: "Partner with us to help save the environment. In exchange for your participation in this program, we at the hotel will donate a percentage of the energy savings to a nonprofit environmental protection organization. The environment deserves our combined efforts. You can join us by reusing your towels during your stay." A third type of card focused guests on the descriptive norms of the situation. It stated: "Join your fellow guest in helping to save the environment. Almost 75% of guests who are asked to participate in our new resource savings program do help by using their towels more than once. You can join your fellow guests to help save the environment by reusing your towels during your stay."

As you can see, the environmental focus message produced a reuse rate of about 38%. The cooperative focus message fared no better, stimulating reuse only 36% of the time. But, the descriptive norms focus message was significantly more effective than either of the others, generating recycling activity about 48% of the time.

Now, I want to talk about two notable aspects of this pattern of data. First of all, the most successful communication is one we have never seen employed in any hotel in the world. Even though it was completely costless to the management of those hotels, they didn't use it. So this tells us that the most effective practices will not simply emerge or evolve from the hotel's experiences, it requires the recognitions of what the social science research tells them to do. Unfortunately, they don't use social science advisors in making their decisions; they use other kinds of advisor in making their



decisions.

Here's a second notable aspect of these data. Why was that the cooperation condition produce no more success than the simple environmental protection message? There are several possible reasons, we have one favorite possibility. One is that, there is no social obligation associated with someone that offers you something, provided that you do something first. There is no obligation to engage in that interaction with that person, to engage in that exchange. It's that just an economic proposition. If you will do this then I will do that. But, there is a powerful sense of social obligation—embodied in the norm for reciprocation—to cooperate with someone who does something for you first and then asks for a favor in return. That is, members of all human societies are trained from childhood to reciprocate the favors they receive from others. We have very nasty names for those who don't play by this rule. We call them freeloaders, or takers, or ingrates...or teenagers. And, no one wants to be labeled in those ways. Consequently, people will go to great lengths to reciprocate a benefactor.

So we have the fourth condition in this experience. Yet another sign, this one said, we have already given a donation to an environmental group. Would you join us, would you cooperate in this regard with us? So now, we were engaging the power of the norm of reciprocation.

To test our thinking, we included a fourth type of message in our design, a reciprocation focus appeal. It read as follows: "We're doing our part for the environment. Can we count on you? Because we are committed to preserving the environment, we have made a financial contribution to a nonprofit environmental protection organization on behalf of the hotel and its guests. If you would like to help us in recovering the expense, while conserving natural resources, please reuse your towels during your stay."

Let me show what we found in those circumstances. The result was an almost 47% success rate, significantly greater than the cooperative focus condition. Once again, we see that a relatively minor change, informed by social psychological theory, can serve as a corrective to existing practices that are misguided.

What are the implications that we discussed so far? First, if we use the norm-based persuasive communication, they are likely to be more effective when communicator who develops the message combines and aligns the descriptive and injunctive channel rather than having them work against one another by saying everybody is doing this regrettable disapproved thing. Second, we should convey the following message in any communication we deliver, (a) the desired activity is widely performed (facilitative descriptive

norm information) and roundly approved (facilitative injunctive norm information), whereas (b) the unwanted activity is relatively rare (suppressive descriptive norm information) and roundly disapproved (suppressive injunctive norm information).

Third, such a line of attack unites the power of two independent sources of normative motivation and should provide a highly successful approach to social influence.

All right, that's what we claim. And, recall that I began my remarks today, an examination of the public service announcement that was created by an organization called "Keep America Beautiful" to try to suppress littering. Since then I have presented data from a variety of studies that have implications for the development of highly effective public service announcements regarding environmental protection. But, none of these studies tested the implications in actual public service announcements.

So, to test our ideas, in the realm of our public service announcement, my colleagues and I created to public service announcements that will produce the greatest success in getting people to take care of the environment. I'd like to show you two of those public service announcements now. The first one. Remember I live in Arizona which is in western part of the United States. So we showed an Arizona scene cowboys sitting around a camp fire making a decision on whether to recycle a soft drink can. And we tried to demonstrate that the majority of the cowboys did recycle. They approved of recycling. And they disapproved of one individual did not recycle. That's the first of these ads. Let me show you. And you can see the logo at the end, boundaries of Arizona with all of the pictures of the citizens of Arizona. This is what we are, we recycle. That was the message.

Another public service announcement is the small town scene in which a young boy takes recycling out to the truck and his parents are approving him for it. The neighbors are recycling except for a one neighbor and we disapprove of him. In an interesting way, perhaps you will appreciate it. Let's take a look at that one.

We played this sets of ads in four Arizona communities. On the television stations that were local to their communities. And we compared that to the set of controlled communities that were matched, but would not receive this ad. And we found 25% increase in number of tons of recycling every month that these ads were being played. So they were powerful in changing the behavior. I don't know how much of you are familiar with public service announcements, but a typical public service announcement would produce one to two percent in behavior because of the way that they are typically viewed. But, ours

produced 25%. That's a lot. However we have to ask, as social scientists, whether a norm message that was presented in these ads actually created the improved recycling or was it something else about the ads. The ads were humorous, the ads had information on how one is recycling, and the ads suggested what's the benefits of recycling would be.

So, In order to assess whether and to what degree descriptive and injunctive norms—separately and in combination—contribute to message effectiveness, we did a mediation study. We looked to see what the cause was the success of these ads. It was designed to determine whether our public service announcements had the intended effects of conveying to viewers that recycling was prevalent (descriptive norm) and approved (injunctive norm). And secondly, the recycling was widely approved in the state of Arizona. Secondly, we wanted reassure that these norms actually influenced the intentions of those individuals who viewed them. And then finally, we wanted to examine whether these two types of norms acted similarly or differently in terms of how they affected viewer's intention of recycling.

So, we showed these ads to a set of college students in Arizona state University, my home university, and asked them to fill out a survey after they saw the ads regarding a number of possible factors that could lead to the increased intent to recycle. Here are the factors we examined: The prior attitude toward recycling, whether they saw the ads as humorous, whether they saw the ads as informative, whether they saw the ads as conveyed approval of recycling(injunctive norm), and finally, whether the ads conveyed the idea that the recycling was prevalent(descriptive norm). We looked at the influence of each of these factors on their intent to recycle, rated a little more after they viewed that ad.

Here is what we found. First of all, those people whose attitude was more favorable to recycling did indeed have a stronger intent to recycle, as was expected. In addition, there were some non-normative factors (prior attitude, new information, humor) that influenced the intention to recycle. But, that's not inconsistent with our theory. We would never claim that the norms are the only thing that influenced behavior.

Let's look at whether the two norms indeed influenced intentions to behave at all. First of all, if the ads were seen as depicting the idea of approval of recycling was wide spread in the State of Arizona, it has a significant impact on the perception that the ads were persuasive that caused subject to intent recycle more. And then finally, if subjects perceive that the ads conveyed the idea that the majority of Arizona citizens recycled (the descriptive norm), it also had a significant impact on intent to recycle. Interestingly, the effect

was direct. It was not mediated through perception that the ads were persuasive.

Why should that be the case? One possibility is that because descriptive norms are based in the raw behavior of others, it becomes relatively easy to accommodate to the norm without much cognitive analysis. Indeed, organisms with little cognitive capacity are able to do so: Birds flock, fish school, and social insects swarm. Injunctive norms, on the other hand, are based in an understanding of the moral rules of the society (i.e., what others are likely to approve), and should therefore require more cognitive analysis to operate successfully. Hence, we might expect that the impact of injunctive (but not descriptive) normative information would be mediated through cognitive assessments of the quality or persuasiveness of the normative information. So we think that's the direction we would like to go in the future to continue this series of examinations.

Let me give you one last finding. That is very new. It's so new that I didn't have time to put it in our data. It has to do with hotel rooms. Again, we went back to the hotel rooms and found one more sign. That has produced more compliance with the request than any thing we had ever done. It also has to do with the idea of the descriptive norm. But those of you who know about social psychology know that we follow the behavior of others. We don't just follow the behavior of anyone. We look to the behavior of others who are most similar to us in deciding what we should do. So, we included one more sign in another experiment in the hotels in Phoenix. This sign didn't say simply that the majority of guests staying at this hotel recycle their towels, which in the past has produced a significant effect. In this new study, that sign again produced a significant improvement. But the new sign, one that produced more than we had ever gotten said, "Majority of guests who stayed in this room have recycled their towels." More similar they were to the individuals who had decided to reuse their towels, even in some as trivial as room they were assigned to be in, that made a significant difference. So, another lesson to those who would give the messages to the public about the importance of performing in the positive for the society: The evidence that those who are most like them have behaved in this way produced the greatest impact. I think that's all the time for my prepared remarks today. I understand we have questions should anyone like raise the question at this point. I would be glad to address that question.

Question: You have mentioned about the PSA and in terms of Arizona. Is it

true that the recycling is prevalent and PSA actually advertises the recycling behavior? And, I do understand that the descriptive norm actually reinforced the habit of recycling that already existed or even in the area of recycling is the norm. and by showing such a descriptive norm on PSA actually had an impact on soliciting among such an audience?

Answer: Thank you for that question, a very good question. It is the case that recycling is prevalent in Arizona: The majority of citizens do recycle. I think that is very important in any communicator for a public purpose. You should be absolutely honest in presentation of what the norms are in the situation. When the norms are in the descriptive norms, the communicator can say that the majority of your neighbor or majority of your friends do recycle or do conserve energy. They are entitled to use it, but only if they could say so honestly. If it's the case the majority of people are not performing the desired action, then we have to use the injunctive norm and we have to point out that the majority of people may not be doing it. We wouldn't want to even say that. We would just say that the majority of your neighbors approve of those individuals who recycle. Then we can still be honest on and get another form of influence working in our behalf.

Question: Your ways of testing are very innovative and very interesting. Do you have any secrets to your very innovative way of designing and conducting your experiments and studies? If you could share some of your secrets I'd be very pleased.

Answer: In fact I have written a chapter in which I was asked to look back on my career and try to identify those influences on my research approach that helped me to find interesting ideas to test and interesting way to test them. So, I do have something like that and I would like to send that chapter to anyone. Unfortunately, it's only written in English. But I can summarize some of the things that I have identified.

One that has helped to study what is important is in effect that seems more powerful than it should be under the circumstances. If you find some effect on behavior that is more forceful, the circumstances or situation tend to require. This is a good place to begin to studying why this effect is so powerful. A few years ago, I was visiting professor at Ohio State University that has the very famous football team and I was in the stand as a fan in the stadium before the game began. And the football team came out of the dressing room and ran to the field. That's all they did. Just ran out on the field. And suddenly

everyone in the stands was up on their feet and shouting and cheering and waiving their hands, and waiving banners and spilling beer on one another. I realized at that moment that there is power in the connection between the sports' fan and the team. The team hadn't even done anything. The game hadn't even started yet. And the fans are in the frenzy. So, I began to do research on the psychology of the sports fan for that precisely that reason. Because I saw something that was disproportionate, affect that was stronger than should have been the case in that situation. So that would be one kind of place where I would look for such findings.

Second, I think it's very important that in addition to do a research in laboratory situations, where we can control the factors that we are operating on our participants in studies. We do other research in the naturally occurring situations in which people typically interact. Those are the situations that are I think most interesting and most realistic. And those should be the situations that we study most intently. We do need to do laboratory research to understand some of the nuances, socialities of a behavior. But, before we do that, we need to see the basic of the effects that we are interested in, in the naturally occurring environments in which people typically interact.

Question: I have one question in terms of descriptive norm. I do understand that it increased the recycling behavior. Let's say that you do not have the convincing message for the advertisement, would there be a long-term difference if have the descriptive norm and if does not actually work within the commercial or ad. Do you think that kind of impact would increase the recycling behavior would be femoral or everlasting?

Answer: Yes, we have some evidence regarding this. We certainly cannot say it is everlasting, but we have recently completed some research on energy conservation in the home to know what messages will cause people to reduce the amount of energy they use in their homes. What we did was to go to their homes and put a hanger on their door knob and that hanger had a message on it. Some of the messages said, if you reduce your energy consumption, you will be able to save money. So it was for the reasons for economic benefit. Another sign said please reduce your amount of energy usage for the sake of the environment so that we will have a healthy planet. Another sign said please reduce your amount of energy use for future generations so your children will have resources in the future. And the final ones said, please reduce your energy usage because your majority of your neighbors do. And

then of course we had a controlled group homes that got no message.

The only one that produced a significant reduction was the message that said that your neighbors are recycling. Economic benefit or social responsibility or do this for the planet did not significantly increase energy conservation compared to the controlled group. Now, we did that once a week for one month. They received that message, and at the end of that month, we found these effects. Then we stopped the program, and we came back one month later and it was still case. Those that received the message that said that your neighbors are doing this were using less energy than any of the other individuals. So, we have evidence that this message worked for at least one longer than when they received their message. So there is some evidence that if you convince people what the norm is, will stay in their minds affect their behavior and act appropriately.

Question: In Japan, bone marrow banks launched a PSA saying that there is shortage of donors so please cooperate. In that sense, many people are not donors in the descriptive norms. That was why the message was very effective. But, everyone has opinion A, but to change to a B. So, if that was the effective message, then the message should have been that, many are donors. But, that's not the reality. So, unfortunately, the donor bank had to tell a lie to the public. How do you think we could overcome this situation?

Answer: I think that's the answer is, they don't have to lie. But just that they have to say, majority of your neighbors and your families will approve of you doing this. So now we can use a different kind of norm: The injunctive norm. That would not be a lie, but it will still cause people to feel that this is a good thing for me to do because I'll get the approval of those around me.

Question: You've mentioned about giving the due consideration to the environment and we have to bear in mind that this issue is related to the next generation. So we have to convince the children about the importance of preserving the environment. And, what is your opinion about our children's generation.

Answer: Well, my view is that to sustain a livable planet with recourses for everyone. I think we do have to begin the education process early and assure that the children recognize the problems of this and they recognize that this something that they should approve or disapprove of their parents. So that the children themselves could be source after they learn from the schools of the

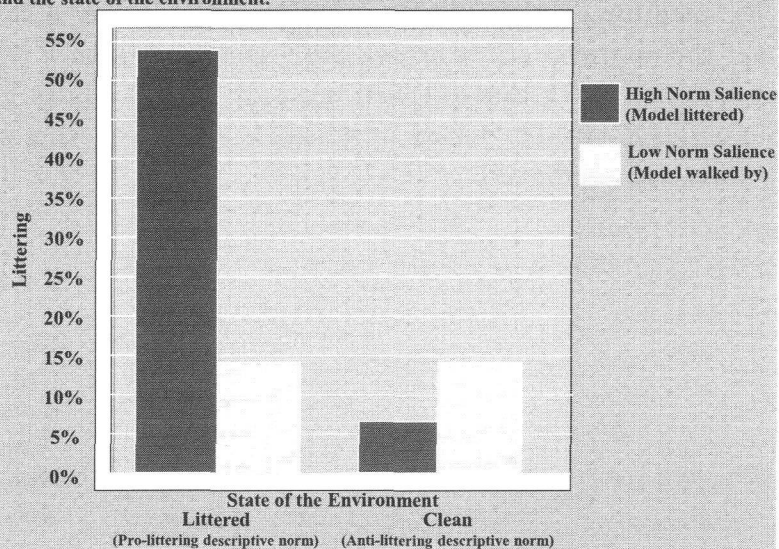
importance of preserving the environment. So that they can say to their parents, this should be something we should be doing as a family. And the parent would like to get the approval of his or her child as a consequence. So we could work in two directions. In that respect, not only should adults be educating children, but children should educate us when they saw us acting in ways not consisting with the environment.

#### References

- Cialdini, R. B. (2001). *Influence: Science and practice* (4th ed.). Boston: Allyn & Bacon. (『影響力の武器』 第二版 誠信書房, 2007)
- Cialdini, R. B. (2003). Crafting normative messages to protect the environment. *Current Directions in Psychological Science*, 12, 105-109.
- Cialdini, R. B. (2005). Basic social influence is underestimated. *Psychological Inquiry*, 16, 158-161.
- Cialdini, R. B., Demaine, L. Sagarin, B. J., Barrett, D. W., Rhoads, K., & Winter, P. L. (2006). Managing social norms for persuasive impact. *Social Influence*, 1, 3-15.
- Cialdini, R. B. (in press). Descriptive norms as underappreciated sources of social control. *Psychometrika*
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, 18, 429-434.



**Figure 1. Percentage of participants littering as a function of descriptive norm salience and the state of the environment.**



Many past visitors have removed petrified wood from the park, changing the natural state of the Petrified Forest.



Please don't remove the petrified wood from the park, in order to preserve the natural state of the Petrified Forest.

Figure 2. Percentage of petrified wood theft.

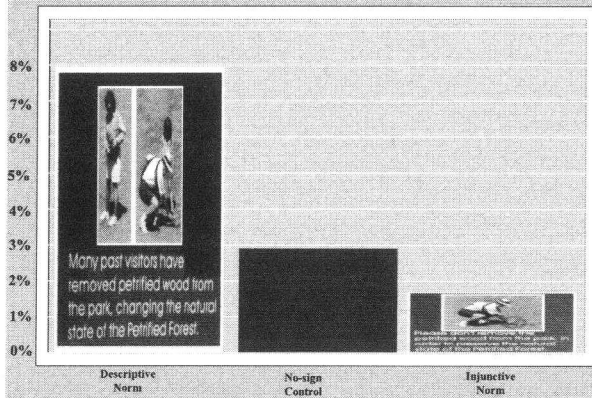


Figure 3. Percentage of towel reuse.

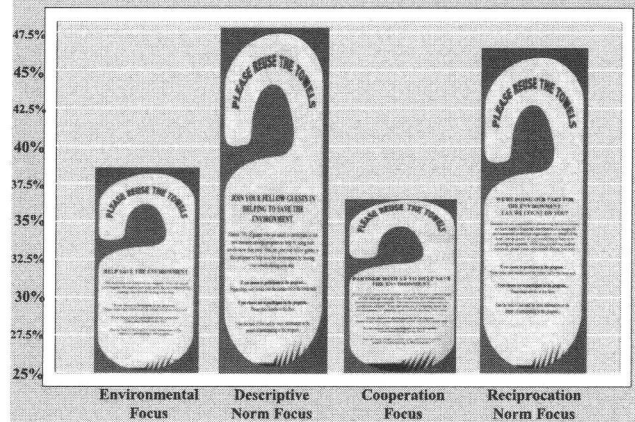


Figure 4. Intentions to recycle after viewing PSAs. All paths significant at  $p = .05$ .

